What is claimed is:

1. A fluid moving system for producing substantially a laminar flow of ambient fluid over and adjacent to a mostly smooth surface, that is exposed and open to the fluid, which comprises a multiplicity of electrode elements mounted in spaced relationships to one another adjacent to the said smooth surface and electrically insulated from one another and constituting a series of elements extending along a portion of the surface and a means comprising a multiplicity of sharp points on predetermined ones of said elements oriented in the direction of fluid flow over the said elements for producing charged particles adjacent said predetermined ones of said elements, all of the said sharp points for each of the said elements lying substantially in a plane perpendicular to the direction of fluid flow and equidistant from the next element in the direction of the fluid flow, whereby the production of charged particles by a corona-type discharge is facilitated at each of the said sharp points, electric exciting means connected with the said electrode elements for producing progressively changing electric potentials along the said smooth surface thereby creating an electric potential field for propelling charged particles dispersed in the ambient fluid progressively from one electrode element toward the next and thereby inducing a surface layer fluid flow over the said portion of the surface, certain ones of the said predetermined elements comprising conducting bars having the said sharp points arranged in two sets pointing in opposite directions, auxiliary electrodes spaced from the said bars one on one side and

one on the other of each of the said bars, and a mechanical or electronic switching means for selectively connecting each of the said bars alternatively to the auxiliary electrode on either side thereof for reversing the direction of the corona discharge and the direction of the moving charged particles.

2. A fluid moving system for producing a substantially laminar flow of ambient fluid over and adjacent to a predominantly smooth surface, exposed to the fluid, the said surface comprises a multiplicity of electrode elements mounted in a spaced relationship to one another and adjacent to the said surface and electrically insulated from one another and constituting a series of electrode elements extending along a portion of the said smooth surface, and an electrical exciting means connected to the said electrode elements for producing progressively changing electrode potentials along the said smooth surface thereby creating an electric potential field for propelling charged particles that are dispersed in the ambient fluid progressively from one electrode element toward the next and thereby inducing a surface layer fluid flow over the said portion of the smooth surface, the said exciting means comprising an alternating voltage source connected to excite the said electrode elements successively to electric potentials at predetermined phase differences between adjacent electrodes for producing a traveling wave effect and for propelling charged particles, that are dispersed in the fluid medium, progressively along the said smooth surface at a resonant velocity which is essentially the velocity of the traveling wave effect, and is

dependent upon the frequency of the alternating voltage, and the phase relationship between the potentials applied to adjacent electrodes and the spacing between the electrode elements, the said exciting means further including means for generating a first alternating voltage having an essentially square wave form, and a means for applying the first said alternating voltage between every other odd-numbered electrode element in a series, and means for generating a second alternating voltage having the same wave form voltage and frequency as the said first alternating voltage, but with phase lagging approximately ninety degrees behind the said first alternating voltage and a means for applying the said second alternating voltage between every other even-numbered electrode element in a series.

3. A fluid moving system as set forth in claim 2 wherein the said means for generating the first and second alternating voltages comprises direct current sources of opposite polarity, and a switching means for applying periodic burst of said voltages, which thus constitute voltages of alternating square wave form.

4.A fluid moving system as set forth in claim 3 including means dependent upon the opening of the said switching means for forming a short high-voltage pulse, and impressing the said high-voltage pulse on the square wave voltages at predetermined points thereon.

5. A power supply consisting of a waveform generator capable

of generating complex waveforms of any desired shape and also capable of providing any desired timeframe at zero voltage, and a multiple output phase shifter capable of generating multiple phase outputs with the total number of degrees of phase shift between individual voltage outputs being independently variable on each of the said outputs, and a series of voltage amplifiers adjustable over a wide range of voltages without distorting the chosen wave form or phase angle, and a series of high-voltage transformers to increase the voltage output of the said amplifiers, which thus operate in a manner wherein the power supply will provide all of the direct current and alternating current voltages, frequencies, wave forms, phase shifts, pulsing voltages and switching mechanisms as called for in claims 1, 2, 3 and 4.

6. A fluid moving system utilizing the power supply of claim 5 for producing a substantially laminar flow of ambient fluid over and adjacent to a predominantly smooth surface, exposed to the ambient fluid, which comprises a multiplicity of electrode elements mounted in a spaced relationship to one another adjacent to the said smooth surface and electrically insulated from one another and constituting a series of electrode elements extending along a portion of the said surface, and the power supply's electric exciting means connected with the said electrode elements for producing progressively changing electrode potentials along the said surface and thereby creating an electrical potential field for propelling the charged particles that are dispersed in the ambient fluid progressively from one electrode element towards the next and

thereby producing a surface layer fluid flow over the said portion of the substantially smooth surface, said alternating current exciting voltage provided by the power supply of claim 5 and connected to excite the said electrode elements successively to electric potentials at predetermined phase differences between adjacent electrodes for producing a traveling wave effect, and for propelling the charged particles dispersed in the fluid medium progressively along the said surface at a resonant velocity which is substantially the velocity of the traveling wave effect and is dependent upon the frequency of the alternating voltage and the phase relationship between the potentials applied to the adjacent electrodes, and the spacing between electrode elements, said system utilizing the said power supply for generating an alternating voltage having an essentially flat-top wave form or a partially flat-top wave form with a spike at the wave's leading edge over a substantial portion of each half cycle, and having a nearly zero voltage for an appreciable period between flat-top portions, and for superposing a timed high voltage pulse on each half cycle, of the same polarity, on the flat-top wave on which it is superposed. Final section - page 5

7. A fluid moving system as set forth in claim 6 utilizing the power supply of claim 5 for adjusting the time of the high voltage pulse with respect to the flat-top wave form.

8. A fluid moving system as set forth in claim 6 utilizing the power supply of claim 5 for separately adjusting the voltage of

the essentially flat-top portion occurring on each half cycle to control the velocity of the charged particles and thereby synchronize their movement with the velocity of the traveling wave effect.

9. A fluid moving system as set forth in claim 6 and utilizing the power supply of claim 5 for separately adjusting the voltage of the short pulse and thereby control the production of charged particles in the ambient fluid.

10. A fluid moving system as set forth in claim 6 and utilizing the power supply of claim 5 for adjusting the length of the essentially flat-top portion of each half cycle compared to the length of the nearly zero voltage portion, thereby affording an increase in efficiency by minimizing the capture of charged particles by electrodes and minimizing reversed propulsion of charged particles which can get out of synchronization with the traveling wave effect.

11. A fluid-force-moving system for producing a substantially laminar flow of ambient fluid over and adjacent to substantially smooth surface, exposed to the fluid, which comprises a multiplicity of electrode elements mounted in a spaced relationship to one another and constituting a series of electrode elements extending along a portion of the said mostly smooth surface, and using the power supply of claim 5 providing electric exciting of the said electrode elements for producing progressively changing electrical potentials along the said surface, thereby creating an electric potential field for propelling charged particles, that are

dispersed in the ambient fluid, progressively from electrode element toward the next and inducing a surface layer fluid flow over the said portion of the surface, said exciting means provided by the power supply to excite the said electrode elements successively to electric potentials at predetermined phase differences between the adjacent electrodes for producing a traveling wave effect and for propelling charged particles dispersed in the fluid medium progressively along the said surface at a resonant velocity which is essentially the velocity of the traveling wave effect and is dependent upon the frequency of the alternating voltage and the phase relationship between the potentials applied to the adjacent electrodes and the spacing between electrode elements, whereby excitation of the said electrode produces a true traveling weave having a velocity dependent upon the frequency provided by the power supply, and the minimum distance between electrodes of the same phase relationship.

12. A fluid-force moving system as set forth in claim 11 including a means to adjust the minimum distance between excited electrodes of the same phase relationship for changing the velocity of the traveling wave.

13. A fluid-force moving system as set forth in claim 11 utilizing the power supply of claim 5 to change the frequency of the alternating potential for changing the velocity of the traveling wave.

14. A paddle-wheel-type turbine provided with two fluid generating tunnels with one of the said tunnels positioned to cover essentially the upper half of the paddle wheel blades and the second of the said tunnels provided to substantially cover the bottom half of the said paddle-wheel blades, with the upper fluid-force generator producing controllable high-velocity fluids, such as ionic winds, in a static direction of say left to right thereby forcing the paddle wheel to turn counterclockwise, while the lower fluid-force generator is producing controllable high-velocity fluids flowing in the opposite direction, say right to left, of the said fluids produced in and by the upper fluid-force generator tunnel thereby augmenting the counterclockwise forces provided in the upper tunnel, and having both fluid-force generators provided electrical exciting power by the common power supply of claim 5 thereby substantially providing equal fluid forces from both the top and bottom fluid-force generating tunnels, and to further increase the overall efficiency of this paddle-wheel-type turbine having the generated fluids first travel through a narrow throat portion of the tunnel where the paddle wheel receives its thrust and then having additional electrodes in the exit portion of the tunnel to provide the said turbine with a suction force during and after the time it has applied its forces to the turbine blades, said exit portion of the fluid-force generator tunnel then being

turned in a direction towards the inlet area of the opposite fluid-force generating tunnel thus giving the other generator a fluid-force directed in the center of its input end while not interfering with the laminar flows being produced by either of the fluid-force generator's electrode elements.

15. A fluid-force generator similar to the one described in claim 14 but having the tunnel portion with sides having the same dimensional cross section and thereby eliminating the need to provide for expanded electrode spacing because in this configuration there is no narrow throat portion of the tunnel to deal with.

16. A fluid-force generator similar to the one of claim 15, but instead of having opposing fluid-force generator tunnels a separate tunnel is used as a stand-alone fluid-force generator that may be applied in other types of turbines such as a Tesla turbine engine/pump wherein the propelling force is created by a boundary layer caused by the high speed of bladeless discs and wherein the fluid-force generator of the present invention is not used in the conventional manner as designed by Tesla, and others who have attempted improvements to Tesla's design, but rather the output of the fluid-force generator is designed to enter the turbine through more than one orifice and thereby influencing the disc to rotate at high speeds and thereby establishing a substantial amount of shaft horsepower without the use of any combustible materials or ignition thereof and thereby providing an abundance of non-polluting shaft horsepower that can be utilized

for the production of electrical power or for any other purpose requiring shaft horsepower.

17. A fluid-force generator similar to the one in claim 15, but used as an energy source to cause the blades of a standard gas-type turbine to turn at high speeds and thereby creating a substantial amount of shaft horsepower that can be utilized for any purpose, such as for electrical power generation, without burning any fossil fuels and thereby being beneficial to the environment and also preserving some of the earth's dwindling supply of fossil fuels.